

**DOCKET NO.:** FCI-2780/C2285B  
**Application No.:** 10/780,835  
**Office Action Dated:** August 27, 2004

**PATENT**

**Amendments to the Drawings**

The attached sheet(s) of drawings includes changes to Fig(s) 7B, 13A, 15A, 15B, and 16.

The sheet(s), which includes Fig(s) 7A, 7B, 13A, 15A, 15B, and 16, replaces the original sheet(s) including Fig(s) 7A, 7B, 13A, 15A, 15B, and 16.

Attachment: Replacement Sheet(s)

## **REMARKS**

### **Status of the Claims**

Claims 1-14 are currently pending in the application, of which claim 1 has been amended and claims 10-14 are newly presented.

### **Objections of Record**

There are numerous objections directed to the specification and the drawings. Regarding the specification, the examiner requests that the “z” axis in Figure 13A be described. The z-axis is described as the waveguide axis in paragraph [0054]. The examiner also requests further elaboration as to the nature of the curves as depicted in Figures 8, 9, 11, 12, 14, and 16. Applicant submits that each of the curves associated with these figures is explicitly and clearly referenced in the detailed description of preferred embodiments. Moreover, Applicant is unable to specifically address the examiner’s concern since the request is vague—what type of elaboration is needed? Applicant has amended the specification, as shown above, to remedy the remaining purported informalities.

Figures 7B, 13A, 15A, 15B, and 16 are objected to. The legend “Prior Art” has been added to Figure 16, and a replacement drawing sheet 18 including the corrected figure is being submitted herewith. Applicant has also submitted replacement drawing sheets including Figures 7B, 13A, 15A and 15B with the requested cross-hatching.

In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of the objections of record.

### **Rejections of Record**

Claims 1-5, 7 and 9 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Klebe (US 5,398,010) or Williams (US 3,157,847) in view of a Butterweck article. Applicant respectfully traverses this rejection.

Applicant has amended independent claim 1 to recite that the first and second conductive channels are “self-supporting.” That is, the channels structural integrity does not depend on either of the first or second dielectric substrates. This amendment is supported by

the specification statement that the channels “can be fabricated by extrusion or by bending a sheet of conductive material.” See the written description at ¶ [00047].

The examiner asserts that it would have been obvious to have modified the laminated waveguide and substrate configuration in either primary reference with the gaps as taught by the waveguide configuration of Butterweck. Applicant notes that each of the primary references teach coating dielectric substrates with a conductive material. For example, Williams discloses “when dielectric materials are used for the plates and a conductive coating type guide surface is desired, a thin conductive coating is applied to the surfaces of the plates . . . This coating may be applied by any conventional means such as plating, painting or the like” (see col. 2, lines 34-59). Similarly, Klebe discloses using an electroless copper plating process to coat molded base (31) and cover (32) parts (see col. 4, lines 5-64). Applicant submits that a coating or plating is not self-supporting. Accordingly, neither primary reference teaches or suggests a *self-supporting waveguide channel*.

Furthermore, even if Butterweck discloses a such a self-supporting waveguide, there is not motivation to modify the primary references in this way because a gapped channel in the primary references would be fabricated, via the references’ teachings, simply by not coating the portion of the substrates that would yield the recited gap. That is, the primary references teach away from a self-supporting waveguide channel. Accordingly, independent claim 1 is patentably distinct from the combined teachings of Butterweck with each of the primary references.

Claims 1-4 and 6-9 are rejected under the judicially-created doctrine of obviousness type double patenting as allegedly being unpatentable over claims 1-4 and 7 of U.S. Patent No. 6,590,477. Applicant submits that this rejection is improper and requests withdrawal of the same.

The pending claims are directed to unique backplane systems comprising waveguide channels. The ‘477 patent is the grandparent to the present application. During prosecution of the ‘477 patent, you issued a three-way Restriction Requirement on May 23, 2001, and pointed out the distinctness of such inventions. The backplane related claims were canceled

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in response to the Restriction Requirement.<sup>1</sup> The '477 issued with twelve claims directed to a waveguide invention. Not only is the double patenting rejection legally improper (see 35 U.S.C. § 121), but the position in the current office action—pending backplane system claims are not patentably distinct from the waveguide claims—is also directly opposed to the PTO's position taken during prosecution of the '477 patent.

In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of the rejections of record.

All of the pending claims are believed to be in condition for allowance. Confirmation of the same is requested via issuance of a Notice of Allowance.

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<sup>1</sup> Backplane system claims were submitted in the parent to the present application (now U.S. Patent No. 6,724,281). Examiner Lee issued a Restriction Requirement in the parent case on May 21, 2002. In response, Applicant canceled the non-elected claims and filed them in the present application (original claims 1-9).